

REMARKS

Summary Of The Office Action & Formalities

Claims 1-22 are all the claims pending in the application. By this Amendment, Applicants are amending claim 1, and adding new claims 23 and 24. No new matter is added.

Claims 3-7, 13-16, and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all the limitations of their respective base claims and any intervening claims.

The prior art rejections are summarized as follows:

1. Claims 1, 2, 8-12 and 17-21 are rejected under 35 U.S.C. § 102(b) as being anticipated by Wolf (USP 4,889,303).

Applicants respectfully traverse the prior art rejections.

Claim Rejections - 35 U.S.C. § 102

1. Claims 1, 2, 8-12 and 17-21 In View Of Wolf.

In rejecting claims 1, 2, 8-12 and 17-21 in view of Wolf, the grounds of rejection state that

With regard to claims 1, 9, 17, 18 and 21, Wolf discloses an interconnection comprising a conductive core (formed by conductors 26) including a metal conductor (26) with, at each end thereof, an electrical connector (34, 60), and a flexible (10) tube having at least an insulating layer (22) made of elastomeric material and covering the whole conductive core (formed by conductors 26). The method limitations are deemed inherent. See Figs. 1-2.

The recitation "a medium voltage" has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a

self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa V. Robie*, 88 USPQ 478 (CCPA 1951).

The limitation “for realizing an electrical connection between a receiving connector of a first equipment station and a receiving connector of a second equipment station” has not been given patentable weight since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex. parte Masham*, 2 USPQ2d 1647 (1987).

The limitations “adapted to electrically connect a receiving connector of a first equipment station and a receiving connector of a second equipment station”, and “adapted to mate the receiving connector” have not been given patentable weight since it has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

With regard to Claims 2, 12 and 19-20, Wolf discloses the electrical connector (34,60) having a substantially conical shape of which a base (60) is connected to the metal conductor (26), the base (60) having a diameter relatively larger than the diameter of the metal conductor (26). See Figs. 1-2.

With regard to Claim 8, Wolf discloses the flexible tube (10) having the same length as the conductive core (formed by conductors 26). See Figs. 1-2.

With regard to Claims 10 and 11, Wolf discloses the elastomeric material being a synthetic terpolymer of ethylene, propylene and diene [EPDM] or silicone. See Lines 50-51.

Office Action at pages 2-4.

Applicant has amended claim 1 to further recite the step of sliding “said two connectors inside said expanding flexible tube.” Applicant notes that the fact that two connectors are inside

the expanded flexible tube is implicit in claim 1 prior to the present amendment. Nevertheless, Applicant is amending claim 1 to explicitly recite this feature.

Wolf discloses an interconnection flexible arm (see Fig. 1, reference no. 10) particularly adapted for realizing an electrical connection between a microphone and a power supply (see Fig. 8). The flexible arm of Wolf comprises:

- Conductive metal strands (Fig. 6, ref. no. 76)
- An electrical connection (Fig. 1, ref. nos. 12 and 16) at each end of the arm, said conductive strands with the two connectors forming a conductive core,
- A flexible tube (Fig. 1, ref. no. 20) surrounding the conductive metal strands and made of rubber or synthetic plastics metal.

On the other hand, Wolf does not disclose or suggest an expanded flexible tube that is released over the conductive core.

In the column 4, lines 8-16 of Wolf, it is disclosed that the degree of flexibility of the arm may be varied by modifying the number and dimensions of the strands. The degree of flexibility may also be varied by using metals having various flexibility characteristics.

The above-mentioned features disclosed in Wolf only mean that the flexibility of the arm may be adapted by adapting the flexibility's of the strands comprised in the arm; those features are not focused on the flexible tube characteristics, but on the strands characteristics and it does not mean at all that the flexible tube is expanded and then released over the strands. Therefore, it would certainly not be inherent for a person skilled in the art that the tube has to be expanded and released.

Wolf is entirely silent regarding the installation of the tube 20 on the metal strands. This installation could be, for example, a molding step that is completely different from the installation steps of claim 1.

Moreover, the conductive core as claimed comprises a metal conductor and two connectors. The two connectors are inside the expanded flexible tube. Therefore, the conductive core as a whole (metal conductor *plus* two connectors) is enclosed inside the flexible tube.

The connectors 12 and 16 as disclosed in Wolf are clearly not inside the flexible tube. Rather, Wolf only discloses a flexible tube surrounding the metal conductor.

The fact that the method according to claim 1 comprises the steps of expanding radially the flexible tube and releasing the flexible tube over the conductive core is an essential feature because it allows one to obtain a flexible interconnection available in different lengths without any significant extra-cost.

Applicant also notes that Wolf does not at all relate to a medium voltage interconnection; therefore, Wolf does not disclose or suggest the step of passing a medium voltage through the interconnection assembly. As disclosed in the patent application, a medium voltage is, for example (see page 5 lines 1-10), a voltage greater than 1 kV used in transformers for a tank.

Therefore, claim 1 is patentable over Wolf, and the Examiner is kindly requested to reconsider and withdraw the rejection of this claim and dependent claims 2 and 8.

Regarding claim 9, Applicant maintains that Wolf does not teach or suggest the product-by-process limitation: “wherein said flexible tube is placed over said conductive core by radially expanding said flexible tube, relatively sliding said conductive cone inside said flexible tube, and

releasing said flexible tube over said conductive core.” The final product, which is a result of expanding and sliding the flexible tube over the conductive core that has electrical connectors at each end is neither taught or suggested by Wolf.

Therefore, claim 9 is patentable over Wolf, and the Examiner is kindly requested to reconsider and withdraw the rejection of this claim and dependent claims 10-12.

Claim 17 recites “expanding said flexible tube and relatively sliding said conductive core, including at least said first electrical connector, inside said expanded flexible tube; and releasing said flexible tube over said conductive core to form an interconnection assembly.” Again, Wolf is completely silent with respect to this method step.

Claim 18 explicitly requires the further step of “interconnecting a first equipment station to a second equipment station with said interconnection assembly.” The Examiner’s final Office Action, on the other hand does not address this explicit limitation. Rather, the final Office Action merely reiterates the previous rejection, but now includes claims 17-21 on the same basis.

Claim 21 further recites the explicit step of “passing a medium voltage through said interconnection assembly.” Again, however, the Examiner’s final Office Action does not address this explicit limitation. In response to Applicant’s arguments that Wolf does not teach or disclose a medium voltage interconnection, the Examiner responds at page 5 of the final Office Action by reiterating the position that the corresponding language in the preamble is not given patentable weight, citing the Kropa decision. However, this response ignores the limitations of claim 21 and is, therefore, deficient.

The Kropa decision is not even applicable to claim 21, since the limitation of passing a medium voltage is an explicit method step recited in the body of this claim, and clearly not an intended use recited in the preamble. Accordingly, the Examiner's final Office Action at least is incomplete with respect to claims 18 and 21. Applicant notes that The Manual of Patent Examining Procedure ("MPEP") § 707.07(f) requires Examiners to respond specifically to traversals ("Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it."). Without the benefit of such a complete reply from the Examiner, it becomes extremely difficult to render appropriate advice on how best to proceed.

Indeed, the Examiner's final Office Action is also incomplete with respect to claim 17. Applicant last argued in the September 17, 2002 Amendment that new claim 17 specifically requires "expanding said flexible tube and relatively sliding said conductive core, including at least said first electrical connector, inside said expanded flexible tube" Therefore, even if, assuming for the sake of argument alone, Wolf disclosed "expanding radially said flexible tube and sliding therein said conductive core" as recited in claim 1 (and Applicant maintains that the reference does not make this disclosure), clearly, the layer 22 in Wolf does not cover and is not expanded over the electrical connectors.

The Examiner does not specifically address this distinction. Rather, at page 5 of the final Office Action, the Examiner argues that Wolf inherently discloses expanding the tube 10 over the conductive core 26. Even assuming that this were true, the Examiner has not established that the reference teaches or suggests expanding the flexible tube 10 over side wall 34 or socket 60

(which the Examiner characterizes as electrical connector in the rejection). In fact, the opposite is true. The flexible shaft is inside the side wall 34 and terminates before the socket 60.

Accordingly, the Examiner is kindly requested to withdraw the finality of the last Office Action and reconsider the allowance of claims 17-21 in view of the arguments filed in Applicant's last Amendment and the arguments made herein.

New Claims

For additional claim coverage merited by the scope of the invention, Applicants are adding new claims 23 and 24.

Claim 23 depends from claim 1 and further explicitly recites the step of passing a medium voltage through the interconnection assembly. Claim 24 depends from claim 23 and further recites that the medium voltage is greater than 1 kV. Support for these claims can be found at page 5, first paragraph.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Submitted herewith is a Petition For Extension Of Time with fee and an Excess Claim Fee Payment Letter with fee.

AMENDMENT UNDER 37 C.F.R. § 1.116
US Application No. 09/832,830

Q63809

Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,



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PATENT TRADEMARK OFFICE

Date: April 2, 2003



APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

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IN THE CLAIMS:

The claims are amended as follows:

Claim 1. (Amended) Method to provide a medium voltage interconnection for realizing an electrical connection between a receiving connector of a first equipment station and a receiving connector of a second equipment station, said method comprising the steps of:

- providing an electrical connector mating said receiving connector at each end of a metal conductor, said metal conductor with its two connectors forming a conductive core,
- providing a flexible tube made of at least an insulating layer of elastomeric material,
- expanding radially said flexible tube and sliding therein said conductive core including said two connectors inside said expanded flexible tube, and
- releasing said flexible tube over said conductive core to form an interconnection assembly.

Claims 23 and 24 are added as new claims.